

shp Jan 16

Work Order ID 78092

\*78092\*

Page 1

December-28-11 3:31:44 PM

Item ID: D3830-1KGY

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Vertical Tunnel Upper, LH

Start Date: 28/12/2011 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 16/01/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: M.L.J

Date: 11/12/28

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D3830

A

100

0.00

\*100\*

HandThermo

Memo

0.00

Hand Finishing Thermoforming

1-Cut Sheet to required Blank size

x1

DL  
12/01/10

105

0.00

\*105\*

HandThermo

Dry Material

Memo

0.00

Hand Finishing Thermoforming

Dry Sheet as per QSI022 KYDEX

x1

DL  
12/01/10

Temp: 150°F

Time IN: 7:00 pm 12/01/9

Time OUT: 5:00 am 12/01/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**\*78092\***

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**\*N900040100\***

Setup Start **\*NS1\***

Stop \*NS2\*

**Start Date:** 28/12/2011      **Start Qty:** 1.00

**\* 1 \***

**Cust Item ID:**

**Required Date:** 16/01/2012      **Req'd Qty:** 1.00

**\* 1 \***

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**QC:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **SPC (Y/N):** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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0.00

**\*110\***

0.00

Thermoform

### Thermoforming Machine

## Memo

1-Machine Set-Up  
2-Pre-heat Tool to required temp.  
3-Thermoform as per Dwg and Folio #FTA054 using tool DT9318

Dwg Rev: 4

Folio Rev: R

QC2- Inspect parts off machine FAI/FAIB

0,00

**\*120\***

0.00

QC

## Quality Control

## Memo

**Visually inspect part for proper formation and texture**

QC8- Inspect parts - second check

0.00

**\*130\***

0.00

QC

## Quality Control

## Memo

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**\*78092\***

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**\*N900040100\***

Setup Start **\*NS1\***

Stop \*NS2\*

**Start Date:** 28/12/2011    **Start Qty:** 1.00    **\*1\***

**Cust Item ID:**

**Required Date: 16/01/2012    Req'd Qty: 1.00    \* 1 \***

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_      **Date:** \_\_\_\_\_      **Tooling:** \_\_\_\_\_      **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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140

0.00

**\*140\***

0,00

HandThermo

## Memo

### Hand Finishing Thermoforming

1-Trim to finished dimensions as per Dwg

150

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*150\***

0.00

QC

## Memo

## Quality Control

Complete FAI document

160

QC5- Inspect part completeness to step on W/O

0.00

**\*160\***

0.00

QC

## Memo

## Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 78092****\*78092\***

Page 4

December-28-11 3:31:44 PM

Item ID: D3830-1KGY

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Vertical Tunnel Upper, LH

Start Date: 28/12/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 16/01/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	Identify as per dwg & Stock Location: _____	0.00							
<b>*170*</b>									
Packaging	Memo	0.00							
Packaging									
180	QC21- Final Inspection - Work Order Release	0.00							
<b>*180*</b>									
QC	Memo	0.00							
Quality Control									

12/1/16

12/1/16

MF  
12-01-16.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

December-28-11 3:31:49 PM

Page 1

Work Order ID: 78092

\*78092\*

Parent Item: D3830-1KGY

\*D3830-1KGY\*

Parent Item Name: Vertical Tunnel Upper, LH

Start Date: 28/12/2011

Required Date: 16/01/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC  
Add Step 105 Dry Material 10/04/21 DL

Ipp Rev. B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MKYD6185S.080-P3-52068		Purchased	No			100	sf	1,011.893	1.5	1.5			

\*MKYD6185S 080-P3-52068\*

Kydex steel grey

\*\*

Location

Loc Qty

Loc Code

therm

1011.893107

111807

10.4896282

119476

1001.40348

1.5 ~~8~~ 4

OK  
12/01/11

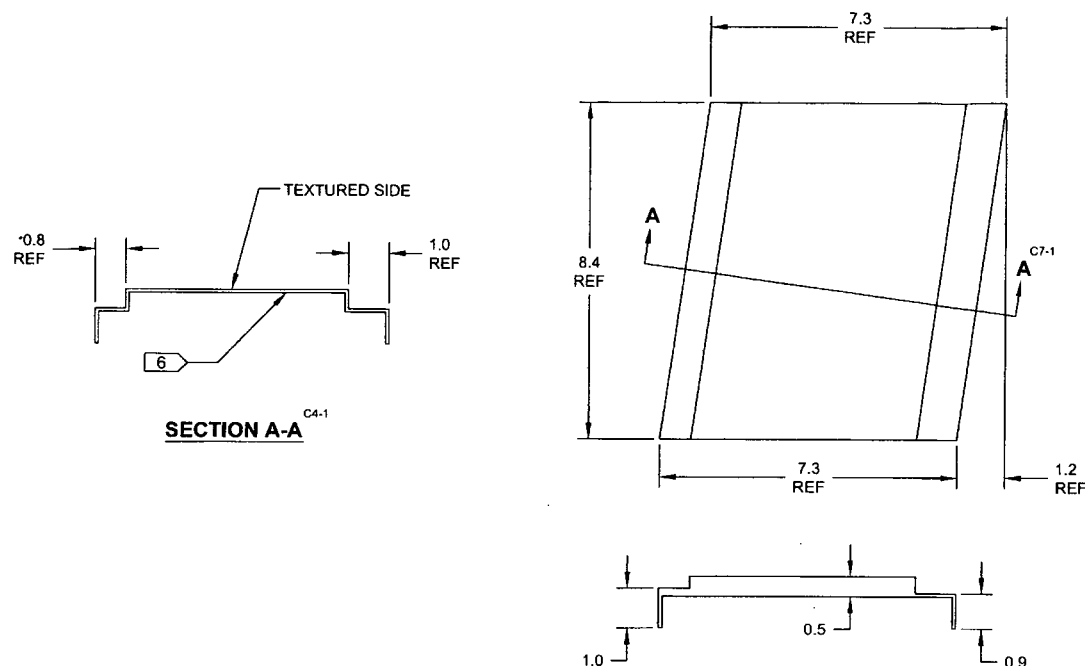
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3830-1 VERTICAL TUNNEL, UPPER L/H**

**NOTES:**

- 1) MATERIAL: SEE TABLE
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N (SEE TABLE) USING VIBRATING STYLUS
- 7) WEIGHT: 0.3 lbs
- 8) TOOLING: THERMOFORM PER MOLD DT9318 PER DART QSI 022. TRIM PER MOLD.
- 9) MINIMUM THICKNESS: 0.050" UNLESS OTHERWISE NOTED

PART NUMBER	DESCRIPTION
D3830-1KIV	KYDEX 6185, 0.080 THICK, P3-VELOUR MATTE, IVORY #62015 (MKYD6185S.080-P3-62015)
D3830-1KGY	KYDEX 6185, 0.080 THICK, P3-VELOUR MATTE, STEEL GRAY #52068 (MKYD6185S.080-P3-52068)

SHOWN  
RETURNED  
EXCISE  
UNCONTROLLED  
SUBJECT TO  
WITHDRAWAL  
WORK ORDER

NO. 78092 M.C.J  
11/12/28 RELEASED

REV.	DESCRIPTION	PH	DATE
A	NEW ISSUE	PH	09.06.12
DESIGN		BY	
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.06.12		

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. REV. A  
D3830 SHEET 1 OF 2  
TITLE  
VERTICAL TUNNEL (206 L3/L4) NTS

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

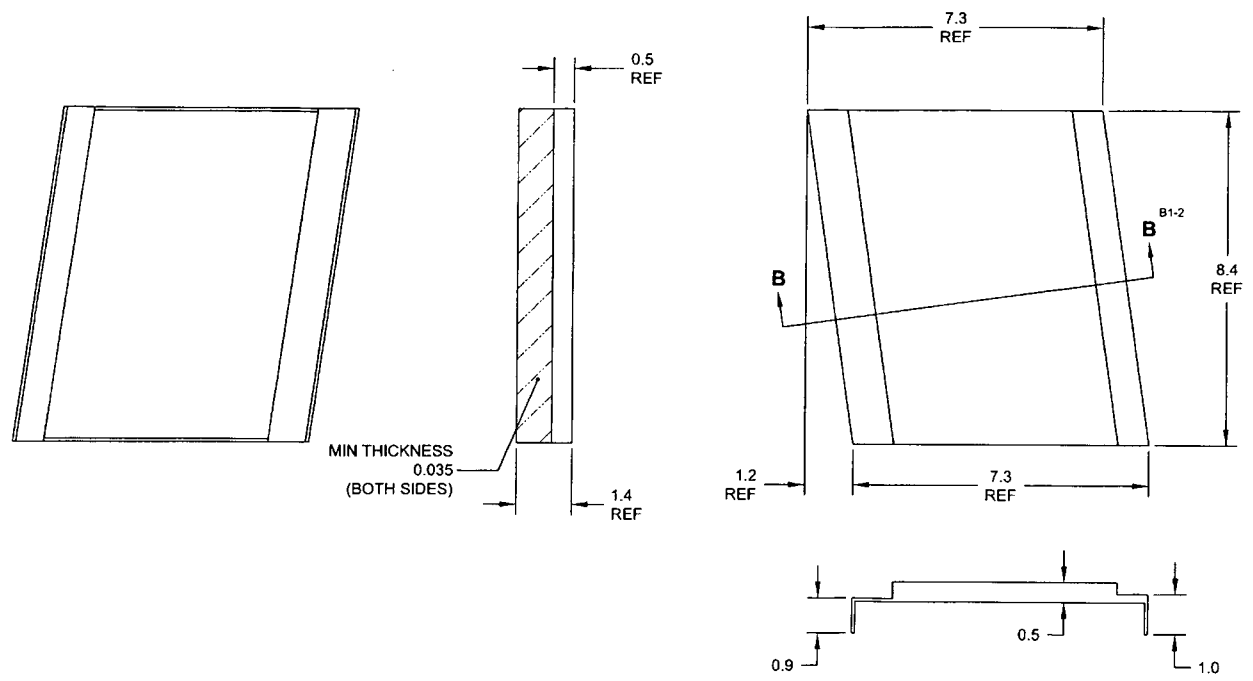
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

78092



D3830-2 VERTICAL TUNNEL, UPPER R/H

RELEASED  
09/06/12

- NOTES:**
- 1) MATERIAL: SEE TABLE
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY WITH DART P/N (SEE TABLE) USING VIBRATING STYLUS
  - 7) WEIGHT: 0.3 lbs
  - 8) TOOLING: THERMOFORM PER MOLD DT9319 PER DART QSI 022. TRIM PER MOLD.
  - 9) MINIMUM THICKNESS: 0.050" UNLESS OTHERWISE NOTED

PART NUMBER	DESCRIPTION
D3830-2KIV	KYDEX 6185, 0.080 THICK, P3-VELOUR MATTE, IVORY #62015 (MKYD6185S.080-P3-62015)
D3830-2KGY	KYDEX 6185, 0.080 THICK, P3-VELOUR MATTE, STEEL GRAY #52068 (MKYD6185S.080-P3-52068)

DESIGN	
DRAWN	
CHECKED	
MFG. APPR.	
APPROVED	
DE APPR.	
DATE	09.06.12

<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D3830	REV. A SHEET 2 OF 2
TITLE VERTICAL TUNNEL (206 L3/L4)	SCALE NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 78092
<b>Description:</b>	<b>Part Number:</b> D3830-1K6Y
<b>Inspection Dwg:</b> D3830 <b>Rev:</b> A	<b>Page 1 of 1</b>

**FIRST ARTICLE INSPECTION CHECKLIST**  
**THERMOFORMING SECTION**

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than $\frac{1}{8}$ "	✓			
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

<b>Measured by:</b> Dh	<b>Date:</b> 12/01/10
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**TRIMMING SECTION**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
8.4 "	R.F.	8.375"	✓		TAPE DL-01	
7.3 "	R.F.	7.75"	✓		TAPE DL-01	
1.0 "	± 0.100"	1.006"	✓		ULTRA DL-02	
0.9 "	± 0.100"	0.979"	✓		ULTRA DL-02	
0.5 "	± 0.100"	0.573"	✓		ULTRA DL-02	
0.050 "	M.N.	0.074"	✓		ULTRA	

<b>Measured by:</b> Dh	<b>Date:</b> 12/01/10
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<b>Audited by:</b> J	<b>Date:</b> 12/01/10
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<b>Preliminary Approval:</b>	<b>Date:</b>
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Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	

10.04.14